

Mr. Barry complains of a sketch which Mr. Austin gives in his report to shew the appearance of the sewer in the vaults, as conveying an exaggerated idea of the latter, which he says are not vaults, but "arched spaces under an open gateway." "intended ultimately to be filled in around the sewer with concrete." He thinks that "Owing to the levels of the outfalls of the public sewers into the river, the lower portion of the palace main sewer cannot be otherwise than a reservoir (termed by Mr. Austin, a continuous cesspool) for ten hours in every tide; but no inconvenience or nuisance can possibly arise from this circumstance, when every drain connected with the main sewer is properly trapped, which is proposed to be done as they are successively connected with it."

The condition of this sewer, ventilated temporarily as it has hitherto been from the man-holes at the two extremities of the building, cannot even in its present unfinished state be considered, as reported, "dangerous to health;" not the slightest escape of noxious effluvia has ever been noticed either before or since the publication of Mr. Austin's Report during repeated and careful examinations made by the architect and his assistants, some of whom have remained in the sewer itself for three hours continuously without experiencing the slightest inconvenience.

Upon a very careful examination, the surface of the foul matter within the sewer, instead of being, as stated, "between 2,000 and 3,000 feet in extent," has been found not to exceed 1,350 square feet, and this deposit has been principally occasioned by the bricks and rubbish which have unavoidably fallen into the sewer in making the numerous communications with it that have at various times been required, and which, of course, will be entirely removed from time to time as the building approaches completion."

Mr. Austin says the currents of air through openings communicating with the sewer set outwards (showing that the foul air was passing into the buildings); Mr. Barry says they have been found invariably to set inwards.

"All communications with the main sewer, which are intended to be permanent, are properly and fairly constructed; the reported 'singular collection' consist of temporary, but, for their present purpose, effective communications with that sewer which have from time to time been required during the progress of the works, and will either be removed or made perfect when necessary."

The brick barrel drains are not, as alleged, "wretchedly constructed." On the contrary, it is impossible that such drains can be more perfectly constructed."

He thinks "the two 15-inch pipes recommended, considered, as they must be, as reservoirs for the storage of storm water during the time when the outfalls are closed by the tide, are utterly insufficient; they would not, for instance, contain 1-40th of the quantity of water which fell in three hours upon the area mentioned in the storm in the month of August of the present year (1848)."

"The dimensions of the main sewer are considered by the architect to be no greater than are absolutely necessary for the reception of the waters which at times must enter and be retained in it. The escape of noxious effluvia from it when the drainage is completed will be impossible."

The cost of its removal, instead of being trifling, as alleged, would be very considerable. The system of drainage now adopted, especially if rendered, as already mentioned, independent of the public sewers, will, in the opinion of the architect, be effective and free from all objections.

The 9-inch pipes here recommended for the ordinary drainage of the New Palace would, for the reasons stated in respect of the 15-inch pipes, be utterly inadequate."

Upon this Mr. Austin rejoins, alluding darkly to a "very serious oversight of another kind in connection with the sewerage," mention of which was kept out of the printed report, and carries his attack even farther than before. He denies that the Westminster Commission, "whatever blame they may have to bear," had anything to do with the faults of drainage of the new Houses. As to the "vaults," he says,—

"It would appear to matter little by what

term these portions of the basement of the building should be called; the fact being that there exists a perfect communication throughout the building by their means; that the whole of these works, whether of 'vaults' or 'arched spaces,' appears to be of precisely similar construction, and have, I am informed, always been known and spoken of before committees, and on the works, without distinction, as 'vaults;' and that although open gateways may exist immediately above this part, the exposed sewer itself passes within about 12 yards from the basement of the grand central saloon connecting the Houses of Lords and Commons, with the vaults or arched spaces of which there is perfectly open communication, and through which I have myself passed more than once to the sewer."

Mr. Austin then re-asserts his statements; shews that in 1846 Mr. Phillips, in reply to complaints from Mr. Barry as to the public sewer with which the sewer in question communicates, had pointed out "that the latter was simply "an elongated cesspool, the great evil of which must eventually be very obnoxious and injurious," and that the main drainage should be entirely re-arranged,* and he further urges that, by certain works done since his report, closing man-holes, &c., the sewer has been reduced to a more dangerous condition.

"Cut off from all possibility of ventilation, with constant foul deposit therein, the whole length of this sewer must shortly become nothing better than a vast retort, capable of holding some 15,000 cubic feet, in which the foulest gases will be perpetually generating and escaping in a concentrated form into the buildings."

It is a fallacy to suppose that flaps, placed at the mouths of the drains, communicating with the sewer, will at all times prevent the escape of this dangerous miasma. Even supposing that the contact of the surfaces could at all times be perfectly preserved, every time that a discharge takes place, and the flap is raised, an opening is formed through which the foul and pent-up gases will rise and escape into the building."

We cannot, however, give space for more of the report than this one statement, viz., that "The defects of this construction and the bad consequences which must arise from it are manifold, and of that serious nature, that nothing short of the entire removal of so faulty a work can cure the evil. It will admit of no real and practicable improvement, and after the attention which has been brought to bear upon the subject of improved drainage, and the sounder doctrines which have recently been promulgated, the precedent cannot surely be allowed of a drainage work, full of defects, and devoid of all correct principle, remaining in connection with the most costly building of the country."

That the drainage in question is utterly bad seems to us clear, and we are sorry that Mr. Barry should have been betrayed, by what he may consider the too *frank* character of the report, into attempting to defend what is really indefensible, and what, if the report speaks truly, he himself considers so. We do not care about the minor points in the report, we will not ask if the report be exaggerated or not, nor even think it necessary to inquire if the sewer be above ground in "vaults," or "arched spaces." We dwell on the simple fact that there is beneath the building this enormous reservoir for the generation and retention of deleterious gases, and which, it would seem, cannot be kept cleansed but by constant flashing. To prevent these gases, by means of traps, from discharging themselves into the buildings, seems to us impossible.

In conclusion, we would not have it inferred that we desire to attach blame to Mr. Barry. The sewer, it should be remembered, was built in 1837, when the received views in respect of sewerage were very different from what they are now; and as to the mode in which the communications with the drains are made, the clerks of works and the builders are responsible.

ARTISTS' CONVERSAZIONE.—The first of these *Conversazioni* will be given on the 27th inst.

* Reported in THE BUILDER at the time.

PREMASONSON OF THE CHURCH.

The first meeting of the above society, for the present year, was held on January 9th, Mr. G. R. French in the chair. After the usual business, Mr. Jarman exhibited an Oriental casket of carved ivory mounted in steel. The chairman observed the singular likeness exhibited in this work, in its ornamentation, to many European productions of the thirteenth century. Mr. W. Harry Rogers exhibited a rubbing he had taken from an elaborate carved sandal-wood casket of the close of the fifteenth century, in the collection of the late Sir S. Meyrick. This interesting relic is decorated with a profusion of knot-work, executed in relief, with the addition of roses, hearts, and the initials M. R. Mr. George Isaacs also exhibited an ancient jewel casket, of perpendicular taste, remarkable as being unusually architectural in its features. The corners of the lid are supported by four twisted columns, and the spaces between them are enriched with empanelled work of delicate finish. A short discussion having been entered into respecting the purpose and origin of these caskets, of which the middle ages produced an abundant supply in various materials, Mr. J. W. Archer read a paper by Mr. D. Wilson, secretary of the Royal Scottish Society of Antiquaries, "On some peculiarities in Scottish ecclesiastical architecture, with special reference to the Collegiate Church of the Holy Trinity at Edinburgh, demolished A.D. 1845." After detailing the wanton destruction of this venerable fabric, which was founded in 1462 by Mary of Gueldres, the widowed queen of James the Second of Scotland, and levelled with the ground in 1848, for the purpose of enlarging the area of a railway terminus, Mr. Wilson proceeded to the narration of some facts on the comparative dates of the successive styles of Gothic architecture in England and Scotland, particularly urging the very early introduction of decorated work in Scotland before even a symptom of its approach had been manifested south of the Tweed.

The chairman then announced the next paper, to be read February 13th, "On the importance of a knowledge and observance of the principles of art by designers," by Mr. W. Smith Williams.

THE HORSE-POWER POCKET-BOILER.

Your paper of the 6th instant contains a notice of a new steam-engine by Mr. Beauregard, in which it is stated, "a correspondent of the Times asserts that a steamer was navigated to Lisbon, some years back, on a similar principle," &c.

The fact, that the principle sought to be obtained in this steamer, was the very reverse of that stated to be employed by Mr. Beauregard, renders it desirable that it may be generally known, in order that your readers may not be led away by chimerical accounts of results that never can be realised.

The vessel alluded to was the *Comet*, a Government steamer of 80-horse power, which was fitted with Mr. Thos. Howard's vaporizers, by Messrs. Penn, the engineers. The heating surface of these vaporizers containing but 6,298 in., being equal to 78.7 in. per horse-power, may well challenge a comparison with Mr. Beauregard's "horse-power pocket-boiler," and further, from dry plates being used in both cases. But here all comparison must end. It was Mr. Howard's object to inject the water in an extreme state of divisibility, upon plates, maintained at from 350° to 450° Fahrenheit, it being found, and confirmed by experiment, that the vaporization of water goes on much more quickly than at higher temperature. The maintenance of the "spheroidal state," as it is termed by Mr. Beauregard, was that sought to be avoided. This state occurs when water is thrown on plates at very high temperatures, and arises from its being kept from actual contact by a film of steam forming beneath it, and holding it in suspension, thereby causing its spheroidal form, and preventing its speedy evaporation.

I will not here enter into the system of surcharging the steam, &c., employed by Mr. Howard. Suffice it to say, that the practical difficulties of employing heating surfaces at temperatures of 400° to 500°, were found to be